IN THE CLAIMS:

1 - 19. (canceled)

20 - 24. (not entered)

25. (new) A cement slurry intended to be set in a wellbore through at least one geologic formation having a certain permeability, the cement slurry comprising cement, at least one mineral filler consisting of silica with a grain size distribution ranging between 5 and 200 μ m, water and a determined amount of a copolymer, designated as HMPAM, having hydrophilic (Hy) and hydrophobic (Hb) units in aqueous solution, said copolymer having the following structure: —(Hb)—(Hy)—with a statistical distribution, wherein Hy has the following form:

and

Hb has the following form:

wherein said copolymer has a weight average molecular weight of between 8 • 10⁶ and 10⁷ daltons.

26. (new) The cement slurry of Claim 25, wherein said copolymer has a proportion of hydrophobic units ranging from between 0.5 and 60%.

27. (new) A cement slurry intended to be set in a wellbore through at least one geologic formation having a certain permeability, characterized in that it comprises cement, at least one mineral filler consisting of silica with a grain size distribution ranging between 5 and 200 μ m, water and a copolymer, designated as Hb1, having hydrophilic (Hy) and hydrophobic (Hb) units in aqueous solution, said copolymer having the following structure: —(Hb)—(Hy)—— with a statistical distribution, wherein Hy has the following form:

and Hb has the following form:

wherein said copolymer has a weight average molecular weight of between 10^4 and $5 \cdot 10^4$ daltons and wherein the proportion of Hy units is about 80% and wherein said copolymer is contained in the cement slurry in a concentration ranging between 0.5 and 5% by weight and wherein the cement slurry has a water/cement ratio of 3:10 by weight.

28. (new) A cement slurry intended to be set in a wellbore through at least one geologic formation having a certain permeability, characterized in that it comprises cement, at least one mineral filler consisting of silica with a grain size distribution ranging between 5 and 200 μ m, water and a copolymer selected

from the group of copolymers designated as S1 and S2 wherein

S1 is a copolymer having units of

$$\begin{array}{c|c} & H & \\ & | & \\ & C & \\ & CONH_2 & \\ \\ \text{and} & \\ & - CH_2 - C - \\ & | & \\ & C_6H_4SO_3H_2 & \\ \end{array}$$

with a molar ratio of about 50/50, in aqueous solution, with a statistical distribution, wherein said copolymer has a weight average molecular weight of between $5 \cdot 10^5$ and $5 \cdot 10^6$ daltons, and

wherein S2 is a branched copolymer having the same units as S1, in aqueous solution, with a statistical distribution, wherein said copolymer has a weight average molecular weight of between 5 • 10⁵ and 5 • 10⁶ daltons and wherein the branched copolymer is formed by using N,N' methylene bis acrylamine (MBA) as a branching agent.

29. (new) The slurry of Claim 25, wherein the slurry further contains a copolymer selected from the group of copolymers designated as S1 and S2 wherein S1 is a copolymer having units of

$$\begin{array}{c|c} & H & \\ & | & \\ & | & \\ & | & \\ & CONH_2 & \\ \\ \text{and} & \\ & - CH_2 - C - \\ & | & \\ & C_6H_4SO_3H_2 & \\ \end{array}$$

with a molar ratio of about 50/50, in aqueous solution, with a statistical distribution, wherein said copolymer has a weight average molecular weight of between $5 \cdot 10^5$ and $5 \cdot 10^6$ daltons, and

wherein S2 is a branched copolymer having the same units as S1, in aqueous solution, with a statistical distribution, wherein said copolymer has a weight average molecular weight of between 5 • 10⁵ and 5 • 10⁶ daltons and wherein the branched copolymer is formed by using N,N' methylene bis acrylamine (MBA) as a branching agent.